

## **Remarks**

### **I. Status of Claims**

Claims 1, 4-5, 7-11, and 13-19 are pending in the application. Claims 1, 8, and 19 are independent. Claim 1 is currently amended. Claims 2-3 are canceled without prejudice to and/or disclaimer of the subject matter therein. Claims 15-19 are newly added. Support for the additional language of these claims can at least be found on page 6, line 13, through page 17, line 7 of the Applicant's specification as filed.

Claims 1-5, 7 and 13 are rejected under 35 USC 103(a) as allegedly being unpatentable over Buchner et al. (DE 196 49 434 C1) ("Buchner") in view of Yi et al. (USP 6,586,123) ("Yi"), in view of Uozumi (USP 6,709,779) ("Uozumi"), and further in view of Acker (USP 6,322,917) ("Acker").

Claims 8-11 and 14 are rejected under 35 USC 103(a) as allegedly being unpatentable over Buchner et al., in view of Muchinc et al. (USP 6,558,824) ("Muchinc"), in view of Yi, in view of Uozumi, and further in view of Acker.

The Applicant respectfully requests reconsideration of these rejections in view of the following remarks.

### **II. Pending Claims**

#### **A. Independent Claims 1 and 8**

Claim 1 is rejected under 35 USC 103(a) as allegedly being unpatentable over Buchner in view of Yi, in view of Uozumi, and further in view of Acker. Claim 8 is rejected under 35 USC 103(a) as allegedly being unpatentable over Buchner in view of Muchinc, in view of Yi, in view of Uozumi, and further in view of Acker.

The Applicant respectfully submits that claim 1 is patentable over the cited references at least because it recites, *inter alia*, "...detecting an amount of the inert gas supplied to the cathode...", "...introducing a cooling medium into a passage within the fuel cell...", "...changing a temperature of the cooling medium when measuring the voltage of each cell...", "...wherein in the determining step, an amount of hydrogen cross-leak of each cell is determined from the measured voltage of each cell generated based on a principle of a hydrogen concentration cell...", and "...wherein the amount of cross-leak is calculated based on the

pressure of the hydrogen-containing gas at the cathode, on the total pressure of the inert gas supplied to the cathode, and on the amount of the inert gas supplied to the cathode.”

The Applicant respectfully submits that claim 8 is patentable over the cited references at least because it recites, *inter alia*, “...introducing a cooling medium into a passage within the fuel cell...,” and “...changing a temperature of the cooling medium when measuring the voltage of each cell.”

The Applicant respectfully maintains that a fuel gas and an *inert gas* are being fed to the fuel cell in Buchner whereas a fuel gas and *oxygen* (which is not an inert gas) are being fed to the fuel cells of Uozumi and Acker. Accordingly, the operational temperatures of the fuel cell according to Buchner—and those according to Uozumi and Acker—would differ significantly. More specifically, because a fuel gas and an inert gas (or vacuum) is fed to the fuel cell in Buchner, one of ordinary skill in the art would expect such a fuel cell to be operating at a temperature well below that of a fuel cell in normal operation. As a result, the cooling or adjustment of the fuel cell temperature that is described both Uozumi and Acker—in a fuel cell operating under the conditions set forth in Buchner—would likely be considered unnecessary by one having ordinary skill in the art.

That being said, it is respectfully submitted that the Office Action has not provided any evidence or reasons for why one having ordinary skill in the art would be motivated to combine Buchner with Uozumi and Acker in the manner asserted and/or claimed by the Applicant in the inventions of claims 1 and 8. In the Office Action, it is merely alleged that “there is no statement in Buchner that stated temperature means is unnecessary or it makes the system inoperable,” and then concludes that “having temperature regulation means as suggested by the applied references are a way of improving Buchner's gas leak determination method.” The Applicant respectfully submits that this analysis does not satisfactorily explain why one skilled in the art would be motivated to cool an object that does not otherwise appear to require cooling. Also, it draws an apparently unsubstantiated conclusion that one of ordinary skill in the art would combine the fuel cell according to Buchner with the introduction of a cooling medium, according to Uozumi, to “improve the gas leak determination method.”

In sum, the Examiner's argument appears to only assert that the teachings of the references could be combined, but fails to present any technical or logical incentive for why one having ordinary skill in the art would combine the cited references. That is, the Applicant respectfully submits that the Office Action has not articulated a reason for combining the teachings of the references. Rather, the Office Action merely indicates that elements taught in one reference are compatible with elements of another reference (which is not sufficient to support a rejection for obviousness). As discussed in *KSR Int'l Co. v. Teleflex, et al.*, No. 04-1350, (U.S. Apr. 30, 2007), the Applicant respectfully submits that it remains necessary to identify the reason why a person of ordinary skill in the art would have been prompted to combine alleged prior art elements in the manner as claimed by the Applicant. Obviousness cannot be sustained on mere conclusory statements.

Therefore, the Applicant respectfully submits that, for at least these reasons, claims 1 and 8, as well as their dependent claims, are patentable over the cited references.

**B. Newly Added Claims 15-19**

The Applicant respectfully submits that claims 15-19 are allowable for at least the same reasons that claims 1 and 8 are allowable. Also, it is respectfully submitted that claims 15-19 further distinguish certain embodiments of the present invention from the cited references.

Therefore, the Applicant respectfully submits that, for at least these reasons, claims 15-19 are patentable over the cited references.

**III. Conclusion**

In light of the above discussion, the Applicant respectfully submits that the present application is in all aspects in allowable condition, and earnestly solicits favorable reconsideration and early issuance of a Notice of Allowance.

The Examiner is invited to contact the undersigned at (202) 220-4420 to discuss any matter concerning this application. The Office is authorized to charge any fees related to this communication to Deposit Account No. 11-0600.

Respectfully submitted,

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